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September 24, 2020

The Honorable Richard G. Andrews
United States District Court
J. Caleb Boggs Federal Building
Wilmington, DE 19801-3555

VIA ELECTRONIC FILING

Re: *IPA Techs. Inc., v. Amazon.com, Inc., and Amazon Digital Service, LLC*¹
C.A. No. 16-1266-RGA

Dear Judge Andrews:

Amazon respectfully submits this supplemental letter in response to the Court's September 23, 2020 Order (D.I. 172), in which the Court requested that Amazon provide "its claim chart(s) showing how combination #3 (KQML/KIF, Kiss, MECCA, and Bian) (D.I. 161-1 at 3) reads on claim 1 of the '560 patent" along with a "brief explanation so that [the Court] can try to make sense of what [Amazon] submit[s]." ² (D.I. 172 at 3.)

The KQML/KIF communication protocol (the "KQML system") is "described by 9 papers, 2 specifications, 1 presentation, and source code." (D.I. 161 at 5.) To put IPA on notice of the disclosures on which Amazon and its expert may rely for invalidity, Amazon served invalidity charts for each of the documents that, together, describe the KQML system, for each asserted patent. For the '560 patent, the charts include the following exhibits to Amazon's invalidity contentions: Exhibits C-7³ ("Genesereth '97")⁴, C-8 ("Singh")⁵, C-10 ("Genesereth '94")⁶, C-14

¹ On January 1, 2020, Amazon Digital Services, LLC merged into Amazon.com Services LLC.

² Because the asserted patents are related their claims recite similar limitations. Accordingly, Amazon's invalidity charts for claim 1 of the '560 patent refer to and incorporate by reference the corresponding prior art disclosures identified for common limitations of claim 1 of the '115 patent. To reduce the volume of the attachments to this letter, Amazon is not attaching the charts for the '115 patent to which the charts for the '560 patent refer, but can provide that to the Court upon request.

³ Amazon's invalidity contentions included corresponding charts for the other two patents, with the prefix "A" for the '115 patent and the prefix "B" for the '128 patent.

⁴ Genesereth '97 refers to the publication Michael R. Genesereth, "An Agent-Based Framework of Interoperability" (1997)

⁵ Singh refers to the publication Narinder Singh, et al, "A Distributed and Autonomous Knowledge Sharing Approach to Software Interoperation" (March 22, 1995).

⁶ Genesereth '94 refers to the publication Michael Genesereth, et al., "Software Agents" (1994).

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(“Finin I”)⁷, C-20 (“InfoSleuth”)⁸, C-23 (“Finin II”)⁹, and C-25 (“Labrou”).¹⁰ (D.I. 161-1 at 2, FN 6; Exs. B-H.) Kiss is U.S. Patent 6,484,155 and it is charted in Amazon’s invalidity contentions. (Ex. I.) MECCA is an article titled “Understanding Cooperation: an Agent’s Perspective” and it was also charted in Amazon’s invalidity contentions. (Ex. J). Bian is a thesis titled “An Experimental Environment for Cooperative Agents” and it is charted in Amazon’s Secondary References charts for each asserted patent, which identify the relevant disclosures of all secondary references, including Bian, identified as combinations with the other (primary) references, for each element of the asserted claims. (Ex. K.) Amazon’s invalidity contentions include one Secondary References Chart for each asserted patent.

The invalidity charts for the KQML system, Kiss, and MECCA refer to the Secondary Reference charts for each asserted patent to provide the required notice of obviousness combinations for each element of each asserted claim across the four patents. For example:

- Limitation 1(b) of the MECCA invalidity chart for the ’560 patent refers to limitation 1(b) of the corresponding Secondary Reference chart (Ex. J at 5), which identifies combinations with Kiss (Ex. K at 4), Finin II describing aspects of the KQML system (Ex. K at 11), Genesereth ’97 describing aspects of the KQML system (Ex. K at 19), Singh (Ex. K at 30), and Finin I describing aspects of the KQML system (Ex. K at 41);
- Limitation 1(e) of the Genesereth ’97 (describing aspects of the KQML system) invalidity chart for the ’560 patent references limitation 1(e) of the Secondary Reference chart (Ex. B at 22), which identifies combinations with Kiss (Ex. K at 44), Labrou (describing other aspects of the KQML system) (Ex. K at 60), and Bian (Ex. K at 64); and

⁷ Finin I refers to the published presentation Tim Finin, “Software Agents Knowledge Sharing KQML, KIF and Ontologies” (October 16, 1997).

⁸ InfoSleuth refers to the four publications Nodine et al., “Facilitating Open Communication in Agent Systems: The InfoSleuth Infrastructure,” Proceedings 4th International Workshop, ATAL (1997) (“Nodine”), Nodine et al. “Experience with the InfoSleuth Agent Architecture” Proceedings of the Fifteenth National Conference on AI (September 27, 1998) (“Nodine 2”), Bayardo et al., “InfoSleuth: Agent-Based Semantic Integration of Information in Open and Dynamic Environments” Proceedings ACM SIGMOD International Conference on Management of Data, Vol. 26, Issue 2 (June 1997) (“Bayardo”), and Urban et al., “Expressing Composite Events in InfoSleuth (December 1998) (“Urban”).

⁹ Finin II refers to the publication by Tim Finin, et al. entitled “KQML as an Agent Communication Language” in Jeffrey M. Bradshaw, “Software Agents,” *American Association for Artificial Intelligence* (1997).

¹⁰ Labrou refers to the published thesis and associated source code submitted in an appendix to that thesis Yannis Labrou, “Semantics for an Agent Communication Language” (August 1996) (“Labrou Thesis”).

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- Limitation 1(g) of the Genesereth '97 invalidity chart for the '560 patent references the overlapping limitations 1(b) and 1(c) of the Genesereth '97 invalidity chart for the '115 patent (Ex. B at 27) as those claims recite substantively the same claim language, which references limitations 1(b) and 1(c) of the corresponding Secondary Reference chart for the '115 patent, which identifies combinations with InfoSleuth, Finin II, Labrou, Singh, and Finin I—each of which describe other aspects of the KQML system—and Bian. Amazon did not attach these charts for the '115 patent, but can provide these to the Court upon request.

The claim charts of Amazon's invalidity contentions accompany a cover pleading. The cover pleading identifies in detail why a skilled artisan would have been motivated to combine the KQML system references with one another and with Kiss, MECCA, and Bian. (Ex. A at 50-54.) For example, each of these references is directed to the same "field of software agent architectures and distributed systems" as the asserted patents. (Ex. A at 53-54.) "[R]eferences related to the KQML and KIF software agent architecture use the same KMQL (Knowledge Query and Manipulation Language) as the 'outer' language and KIF (Knowledge Interchange Format) as the 'inner language of vocabulary.'" (Ex. A at 50.) And teachings from each of KQML/KIF, Bian and MECCA could be used to "to solve problems in [one of the] [o]ther agent communication language[s]." (*Id.* at 51.) Indeed, "knowledge sharing and collaboration among developers of the various agent communication languages was a central focus of numerous organizations that led international conferences . . . [resulting in] improvements from the broad array of agent communication languages, architectures, and implementations." (*Id.* at 51-52.)

Accordingly, Amazon's invalidity charts for KQML/KIF, Kiss, MECCA, and Bian, together with the corresponding motivations to combine identified in the cover pleading to Amazon's preliminary invalidity contentions, fully explain how the combination of those references renders obvious claim 1 of the '560 patent. Similar level of detail was provided for each other prior art combination Amazon has elected.

Respectfully,

/s/ *Andrew C. Mayo*

Andrew C. Mayo (#5207)

ACM/nlm
Attachments

cc: Counsel of Record (via electronic mail; w/attachments)